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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,071	01/20/2004	Robert H. Cichewicz	MSU 4.1-691	3185

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EXAMINER

PESELEV, ELLI

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/761,071

Applicant(s)

CICHEWICZ ET AL

Examiner

Elli Peselev

Art Unit

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-33 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 24-33 is/are allowed.
6) ☒ Claim(s) 22 and 23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

Claims 22-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The terms "alkyl", "alkene", "alkyne", "aryl", "cyclic", and "carbohydrate" Claim 22) and "aldehyde" and "carbohydrate" (claim 23) lack enablement. The factors regarding undue experimentation have been summarized in *In re Wands*, 858 F.2d 731, 8 USPQ2d 1400 (Fed. Circ. 1988) as follows:

(1) The quantity of experimentation necessary (time and expense):

Since the terms "alkyl", "alkene", "aryl", "cyclic" and "aldehyde" have not been limited to any number of carbon atoms and the term "carbohydrate" has not been limited to any number of sugar moieties, it would take an undue amount of experimentation to determine which specific moieties will result in a compound having antihelminthic activity. For example, the term "alkyl" encompasses a methyl group and a group having 20 carbon atoms. The term "cyclic" encompasses cyclic alkyl, heterocyclic or heterocyclic aryl having any number of carbon atoms and any hetero atoms. The term "carbohydrate" encompasses any monosaccharide, disaccharide, oligosaccharide or polysaccharide.

(2) The amount of direction or guidance presented:

The specification provides to guidance or how to chose the specific moieties which will result in compounds having antihelminthic activity.

(3) The presence or absence of working examples of the invention:

While the specification provides examples of some specific examples of the claimed compounds, said examples are limited to compounds substituted by specific monosaccharides and methyl groups. There are no examples of compounds substituted by alkene, alkyne, aryl or cyclic.

(4) The nature of the invention:

It is well known the art that even minor variations in the structural formulas of chemical compounds can result in compounds having different activities. For example, note that Li et al (Journal of Natural products, vol. 52, no. 3, pp. 660-662 (1989)), provided by applicant) discloses a similar anthraquinone compound having anticancer activity.

(5) The state of the prior art:

The prior art fails to disclose anthraquinone compounds substituted by alkene, alkyne, aryl cyclic, oligosaccharides or polysaccharides.

(6) The predictability or unpredictability of the art:

There is a good reason to doubt that a a compound substituted by, for example, a methyl group and a monosaccharide, will have the same activity as a compound substituted by an alkyl group having 20 carbon atoms and a polysaccharide.

(7) The breadth of the claims:

The claims encompass such a large number of chemical moieties that it would take an undue amount of experimentation to determine which specific moieties will result in compounds having the desired activity.

(8) The relative skill of those in the art:

A person having ordinary skill in the art at the time the instant invention was made would not have been able to predict which specific moieties encompassed by the instant claims would have resulted in compounds having the desired activity.

Applicant's arguments filed March 14, 2005 have been considered but have not been found persuasive.

It has been noted that claim 22 includes the terminology "which provides antihelminthic activity". However, the specification fails to provide any guidance or direction on how to choose specific moieties which will result in the compounds having antihelminthic activity. Since the claimed moieties encompass such a large number of possible moieties, it would take an undue amount of experimentation by a person having ordinary skill in the art at the time the instant invention was made to determine which specific moieties will result in compounds having the desired activity.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the variable "R", it is not clear how a carbohydrate group can have 1 carbon atom or a hydroxymethyl and COOH can have more than one carbon atom.

Also, the term "aryl" appears twice (line 3 after the structural formula).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

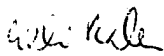
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elli Peselev whose telephone number is (571) 272-0659. The examiner can normally be reached on 8.00-4.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Wilson can be reached on (571) 272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elli Peselev


ELLI PESELEV
PRIMARY EXAMINER
GROUP 1200